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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,707	07/10/2008	Benjamin BREITENSTEIN	C23010	8777

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EXAMINER

FANG, SHANE

ART UNIT	PAPER NUMBER
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1766

NOTIFICATION DATE	DELIVERY MODE
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03/11/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/586,707	BREITENSTEIN ET AL.	
	Examiner	Art Unit	
	SHANE FANG	1766	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

- The amendment of claim 1 and 8 are supported by original claims 6-7 and 0080-0086.
- All previous rejections of claims 1-5 and 8-10 have been overcome by amendment.
- The previous rejections of claims 6-7 have been rendered moot by cancellation.
- The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

Claim 8 is objected to because of the following informalities: It should be marked as "presently amended". Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. Claims 1, 4-5, and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonnvik et al. (US 6569933) in view of Hovis et al. (US 4457775) and in further view of Legge et al. (US 4457775), all listed on previous 892

As to claims 1, 4-5, and 8-9, Tonnvik (1:1-35, 3:1-65, 4:5-60, claims 1-6) discloses a process of producing low dust granulate of polymer additives such as hindered phenol based antioxidant and thioester based antioxidant, wherein additive ingredients in solid or liquid form are added to twin screw extruder (co-kneader) and heated and extruded from holes (4 mm diameter) to form strands, then the stands are

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transported to a water stream cooled granulator (also cools the granulates) consisted of two rolls and rotating blades to form granulates (comminuting). Tonnvick further discloses using fluidized bed for cooling (solidification) and transportation. Tonnvick discloses using two rolls for transportation followed by granulation via blade (Ex. 2). One of ordinary skill in the art would obviously recognize to modify a roller with a polished smooth surface for compressing and facilitating the transfer of polymer additives for sequential granulating process. Although Tonnvik is silent on impressing, the rolling would inherently result in impressing because of the pressure between rolls and the materials in between.

Tonnvik is silent on additives using squeeze rollers having smooth and polished surface followed by shaping rolls having embossing lines and shaping rolls having grooves of claim 1.

Hovis discloses a process of preparing porous films with net-like patterns (1:5-15, Fig. 1-9, 1:58-68, 2:1-25) comprising polymers and other additives by passing extrudate of polymer composition (workable state) through rolls having linearly engraved (embossing) lines. Hovis further implies said rolls having grooves by showing grooves on the resultant porous films with net-like structures. In light of this and in view of Tonnvick, one of ordinary skill in the art would obviously recognize to add engraved roller having grooves to shape sheet like polymer additives after extrusion and roll compacting into porous, net-like patterns, which facilitates the sequential comminuting process of Tonnvick.

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Tonnvick is an analogous art. Hovis et al. is an analogous art, because it pertains to forming porous films with net-like structures that contains polymer additives. It also solves same issue as present invention form shaping porous, net-like patterns by using roller.

Tonnvik is silent on using continuous steel belt for cooling and solidification of claims 1 and steel belt of claim 8.

Legge discloses solidifying of melting mixture of Mg and forming granules on continuous steel belt with water cooled on its underside (for facilitating cooling). Although Legge fails to disclose polymer additives, Legge is an analogous art, because it solves the same issue of cooling and solidifying granulates as present invention. Instant [0082] also shows the continuous steel belt is coolable by water being sprayed onto its underside. One of ordinary skill in the art of obviously recognize cooling before comminuting would facilitate the comminuting of particles due to the reduction of materials tackiness and entanglement cause by higher temperature.

Therefore, as to claims 1, 4-5, and 8-9, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the process disclosed by Tonnvick, applied the first compacting roller with smooth surface, added the second roller with the engraved roller having grooves in view of Hovis, and add continuous steel belt for cooling and solidification in view of Legge before the comminuting process of Tonnvik, because the resultant process would facilitates materials transfer and granulation process. Furthermore, the resultant process would yield a more efficient cooling and solidification process that facilitate the comminuting of

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particles due to the reduction of materials tackiness and entanglement cause by higher temperature. In addition, the granules would inherently be formed along the impressed lines formed particularly via the shaping rolls of Hovis, because those rolls have embossing lines and shaping rolls having grooves that can create holes (Fig. 1-9). One of ordinary skill in the art would obviously recognize the granules would be formed due to said holes (their edges are impressed lines) in the sequential comminuting process of Tonnivik.

2. Claims 2-3 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Tonnivik et al. (US 6569933) in view of Hovis et al. (US 4457775), in further view of Legge et al. (US 4457775), and further in view of Neri et al. (US 5844042), all listed on previous 892

Disclosure of Tonnivik is adequately set forth in ¶1 and is incorporated herein by reference.

Tonnivik is silent on additives of the formulae of claims 2-3. Tonnivik discloses a generic process of producing low dust granulate of polymer additives such as hindered phenol based antioxidant thioester based antioxidant.

Neri discloses a process of producing granular polymer additives (Abs., Ex.2) such as tetrakis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionyloxymethyl] methane (meets claim 2) and octadecyl-3-(3',5'-di-t-butyl-4'-hydroxyphenyl)propionate (meets claim 3), both are equivalent primary antioxidants based on hindered phenols because of the bulky groups adjacent to phenol groups (2:5-30).

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Therefore, as to claims 2-3, it would have been obvious to one of ordinary skill in the art at the time of the invention to have replaced phenol based antioxidant with tetrakis[3-(3,5-di-t-butyl-4-hydroxyphenyl)propionyloxymethyl] methane and octadecyl-3-(3',5'-di-t-butyl-4'-hydroxyphenyl)propionate because of their equivalent functionality as antioxidants and produce these additives via the generic process of Tonnvik. These conditions appear to equally apply to both polymer additive productions using similar primary antioxidants. This adaptation would have obviously yielded instantly claimed invention.

As to claim 10, Tonnvik is silent on using sieve granulator.

Neri discloses a general comminuting process and condition thereof for preparing additive granules by using powder-sieving machine (sieve granulator) (Ex. 2) and results in complete pulverizing (Ex. 2). It is also known that sieving would separate and remove particles of undesired size.

Therefore, as to claim 10, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the process disclosed by Tonnvik and added the sieve granulator in view of Neri, because the resultant process would yield improved granulation and separate and remove particles of undesired size.

Response to Arguments

The argument for allowance of amended claims has been fully considered but not persuasive.

The applicant has attacked Tonnvik for not discloses impressing (Pg.8). The examiner asserts Tonnvik is silent on impressing, but the rolling would inherently results in impressing because of the pressure between rolls and be materials in between, as obviously recognized by one of ordinary skill in the art. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. A case indicating that the burden of proof can be shifted to the applicant to show that the subject matter of the prior art does not possess the characteristic relied on whether the rejection is based on inherency under 35 U.S.C. 102 or obviousness under 35 U.S.C. 103. See MPEP § 2184. In re **Fitzgerald**, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). Moreover, Hovis's engraved roller would also impress the materials.

The applicant argued the combination of Tonnvik and Hovis would not form granules that provide predetermined breaking points (Pg.8). See above rejections.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST.. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/RANDY GULAKOWSKI/
Supervisory Patent Examiner, Art Unit 1766